

SANITARY FACILITIES
Oliver County, North Dakota

The following tables show the degree and kind of soil limitations that affect septic tank absorption fields, sewage lagoons, sanitary landfills, and daily cover for landfill. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. Not limited indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. Slight limitation indicates that the soil has features that are favorable for the specified use. The limitations are minor and can be easily overcome. Good performance and low maintenance can be expected. Moderate limitation indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. Severely limited indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 60 inches is evaluated. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, and flooding affect absorption of the effluent. Stones and boulders, ice, and bedrock or a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas.

Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may become contaminated.

Sewage lagoons are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water. Considered in the ratings are slope, permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, flooding, large stones, and content of organic matter.

Soil permeability is a critical property affecting the suitability for sewage lagoons. Most porous soils eventually become sealed when they are used as sites for sewage lagoons. Until sealing occurs, however, the hazard of pollution is severe. Soils that have a permeability rate of more than 2 inches per hour are too porous for the proper functioning of sewage lagoons. In these soils, seepage of the effluent can result in contamination of the ground water. Ground-water contamination is also a hazard if fractured bedrock is within a depth of 40 inches, if the water table is high enough to raise the level of sewage in the lagoon, or if floodwater overtops the lagoon.

A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope, bedrock, and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor. If the lagoon is to be uniformly deep throughout, the slope must be gentle enough and the soil material must be thick enough over bedrock or a cemented pan to make land smoothing practical.

A trench sanitary landfill is an area where solid waste is placed in successive layers in an excavated trench. The waste is spread, compacted, and covered daily with a thin layer of soil excavated at the site. When the trench is full, a final cover of soil material at least 2 feet thick is placed over the landfill. The ratings in the table are based on the soil properties that affect the risk of pollution, the ease of excavation, trafficability, and revegetation. These properties include permeability, depth to bedrock or a cemented pan, depth to a water table, ponding, slope, flooding, texture, stones and boulders, highly organic layers, soil reaction, and content of salts and sodium. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, onsite investigation may be needed.

Hard, nonrippable bedrock, creviced bedrock, or highly permeable strata in or directly below the proposed trench bottom can affect the ease of excavation and the hazard of ground-water pollution. Slope affects construction of the trenches and the movement of surface water around the landfill. It also affects the construction and performance of roads in areas of the landfill.

Soil texture and consistence affect the ease with which the trench is dug and the ease with which the soil can be used as daily or final cover. They determine the workability of the soil when dry and when wet. Soils that are plastic and sticky when wet are difficult to excavate, grade, or compact and are difficult to place as a uniformly thick cover over a layer of refuse.

The soil material used as the final cover for a trench landfill should be suitable for plants. It should not have excess sodium or salts and should not be too acid. The surface layer generally has the best workability, the highest content of organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

SANITARY FACILITIES
Oliver County, North Dakota

In an area sanitary landfill, solid waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site. A final cover of soil material at least 2 feet thick is placed over the completed landfill. The ratings in the table are based on the soil properties that affect trafficability and the risk of pollution. These properties include flooding, permeability, depth to a water table, ponding, slope, and depth to bedrock or a cemented pan.

Flooding is a serious problem because it can result in pollution in areas downstream from the landfill. If permeability is too rapid or if fractured bedrock, a fractured cemented pan, or the water table is close to the surface, the leachate can contaminate the water supply. Slope is a consideration because of the extra grading required to maintain roads in the steeper areas of the landfill. Also, leachate may flow along the surface of the soils in the steeper areas and cause difficult seepage problems.

Daily cover for landfill is the soil material that is used to cover compacted solid waste in an area sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste. The ratings in the table also apply to the final cover for a landfill. They are based on the soil properties that affect workability, the ease of digging, and the ease of moving and spreading the material over the refuse daily during wet and dry periods. These properties include soil texture, depth to a water table, ponding, rock fragments, slope, depth to bedrock or a cemented pan, reaction, and content of salts, sodium, or lime.

Loamy or silty soils that are free of large stones and excess gravel are the best cover for a landfill. Clayey soils may be sticky and difficult to spread; sandy soils are subject to wind erosion.

Slope affects the ease of excavation and of moving the cover material. Also, it can influence runoff, erosion, and reclamation of the borrow area.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock, a cemented pan, or the water table to permit revegetation. The soil material used as the final cover for a landfill should be suitable for plants. It should not have excess sodium, salts, or lime and should not be too acid.

SANITARY FACILITIES--continued
Oliver County, North Dakota

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable.)

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
Aa: Alluvial Land-----	Severe: flooding wetness	Severe: flooding	Severe: flooding wetness	Severe: flooding wetness	Poor: hard to pack seepage wetness
ArA: Arnegard-----	Moderate: percs slowly	Moderate: seepage	Moderate: too clayey	Slight	Fair: too clayey
ArB: Arnegard-----	Moderate: percs slowly	Moderate: seepage slope	Moderate: too clayey	Slight	Fair: too clayey
ArC: Arnegard-----	Moderate: percs slowly	Severe: slope	Moderate: too clayey	Slight	Fair: too clayey
BaC: Banks-----	Severe: poor filter	Severe: seepage	Severe: seepage too sandy	Severe: seepage	Poor: seepage too sandy
BbA: Banks-----	Severe: flooding poor filter	Severe: flooding seepage	Severe: flooding seepage too sandy	Severe: flooding seepage	Poor: seepage too sandy
BcA: Banks-----	Severe: flooding poor filter	Severe: flooding seepage	Severe: flooding seepage too sandy	Severe: flooding seepage	Poor: seepage too sandy
Trembles-----	Slight	Severe: seepage	Severe: seepage	Severe: seepage	Fair: too sandy
BcB: Banks-----	Severe: flooding poor filter	Severe: flooding seepage	Severe: flooding seepage too sandy	Severe: flooding seepage	Poor: seepage too sandy
Trembles-----	Severe: flooding	Severe: flooding seepage	Severe: flooding seepage	Severe: flooding seepage	Fair: too sandy
BdA: Belfield-----	Severe: percs slowly	Slight	Severe: excess sodium too clayey wetness	Moderate: wetness	Poor: excess sodium hard to pack too clayey
Daglum-----	Severe: percs slowly	Slight	Severe: excess sodium too clayey	Slight	Poor: excess sodium too clayey
BdB: Belfield-----	Severe: percs slowly	Moderate: slope	Severe: excess sodium too clayey wetness	Moderate: wetness	Poor: excess sodium hard to pack too clayey

SANITARY FACILITIES--continued
Oliver County, North Dakota

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable.)

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
Daglum----- BeA: Belfield-----	Severe: percs slowly	Moderate: slope	Severe: excess sodium too clayey	Slight	Poor: excess sodium too clayey
Daglum----- BeB: Belfield-----	Severe: percs slowly	Slight	Severe: excess sodium too clayey wetness	Moderate: wetness	Poor: excess sodium hard to pack too clayey
Daglum----- BeB: Belfield-----	Severe: percs slowly	Slight	Severe: excess sodium too clayey	Slight	Poor: excess sodium too clayey
Daglum----- BeB: Belfield-----	Severe: percs slowly	Moderate: slope	Severe: excess sodium too clayey wetness	Moderate: wetness	Poor: excess sodium hard to pack too clayey
Daglum----- BmA: Belfield-----	Severe: percs slowly	Moderate: slope	Severe: excess sodium too clayey	Slight	Poor: excess sodium too clayey
Daglum----- BmA: Belfield-----	Severe: percs slowly	Slight	Severe: excess sodium too clayey wetness	Moderate: wetness	Poor: excess sodium hard to pack too clayey
Morton----- BmB: Belfield-----	Severe: seepage thin layer	Severe: seepage	Severe: seepage	Moderate: seepage	Poor: area reclaim thin layer
Morton----- BmB: Belfield-----	Severe: percs slowly	Moderate: slope	Severe: excess sodium too clayey wetness	Moderate: wetness	Poor: excess sodium hard to pack too clayey
Morton----- BmC: Morton-----	Severe: seepage thin layer	Severe: seepage	Severe: seepage	Moderate: seepage	Poor: area reclaim thin layer
Belfield----- BsA: Belfield-----	Severe: percs slowly	Severe: slope	Severe: excess sodium too clayey wetness	Moderate: wetness	Poor: excess sodium hard to pack too clayey
Straw-----	Moderate: flooding percs slowly	Severe: seepage	Severe: seepage	Severe: seepage	Fair: too clayey

SANITARY FACILITIES--continued
Oliver County, North Dakota

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable.)

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
CaE: Cabba-----	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope depth to rock	Poor: slope depth to rock
Shale Outcrop-----	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope depth to rock	Poor: hard to pack slope depth to rock
CbD: Cabba-----	Severe: depth to rock	Severe: slope depth to rock	Severe: depth to rock	Severe: depth to rock	Poor: depth to rock
Werner-----	Severe: seepage thin layer	Severe: seepage slope	Severe: seepage	Severe: seepage	Poor: area reclaim thin layer
CbE: Cabba-----	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope depth to rock	Poor: slope depth to rock
Werner-----	Severe: seepage slope thin layer	Severe: seepage slope	Severe: seepage slope	Severe: seepage slope	Poor: area reclaim slope thin layer
CgE: Cohagen-----	Severe: slope depth to rock	Severe: seepage slope depth to rock	Severe: seepage slope depth to rock	Severe: slope depth to rock	Poor: slope depth to rock
Sandstone Outcrop-----	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope depth to rock	Severe: slope depth to rock	Poor: slope depth to rock
ChD: Cohagen-----	Severe: slope depth to rock	Severe: seepage slope depth to rock	Severe: seepage slope depth to rock	Severe: slope depth to rock	Poor: slope depth to rock
Vebar-----	Severe: seepage slope thin layer	Severe: seepage slope	Severe: seepage slope	Severe: slope	Poor: area reclaim slope thin layer
Co: Colvin-----	Severe: flooding percs slowly wetness	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding wetness	Poor: wetness
Regan-----	Severe: flooding percs slowly wetness	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding wetness	Poor: wetness
Dm: Dimmick-----	Severe: percs slowly ponding	Severe: ponding	Severe: too clayey ponding	Severe: ponding	Poor: hard to pack too clayey ponding

SANITARY FACILITIES--continued
Oliver County, North Dakota

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable.)

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
FaA: Farland-----	Severe: percs slowly	Moderate: seepage	Severe: too clayey too sandy	Slight	Poor: too clayey
FaB: Farland-----	Severe: percs slowly	Moderate: seepage slope	Severe: too clayey too sandy	Slight	Poor: too clayey
FcB: Flaxton-----	Severe: percs slowly	Severe: seepage	Moderate: too clayey	Severe: seepage	Fair: too clayey
FlA: Flaxton-----	Severe: percs slowly	Severe: seepage	Moderate: too clayey	Severe: seepage	Fair: too clayey
Livona-----	Severe: percs slowly	Severe: seepage	Moderate: too clayey	Slight	Fair: too clayey
FlB: Flaxon-----	Severe: percs slowly	Severe: seepage	Moderate: too clayey	Severe: seepage	Fair: too clayey
Livona-----	Severe: percs slowly	Severe: seepage	Moderate: too clayey	Slight	Fair: too clayey
FlC: Flaxton-----	Severe: percs slowly	Severe: seepage slope	Moderate: too clayey	Severe: seepage	Fair: too clayey
Livona-----	Severe: percs slowly	Severe: seepage slope	Moderate: too clayey	Slight	Fair: too clayey
FwA: Flaxton-----	Severe: percs slowly	Severe: seepage	Moderate: too clayey	Severe: seepage	Fair: too clayey
Williams-----	Severe: percs slowly	Moderate: seepage	Moderate: too clayey	Slight	Fair: too clayey
FwB: Flaxton-----	Severe: percs slowly	Severe: seepage	Moderate: too clayey	Severe: seepage	Fair: too clayey
Williams-----	Severe: percs slowly	Moderate: seepage slope	Moderate: too clayey	Slight	Fair: too clayey
FxB: Flaxton-----	Severe: percs slowly	Severe: seepage	Moderate: too clayey	Severe: seepage	Fair: too clayey
Williams-----	Severe: percs slowly	Moderate: seepage slope	Moderate: too clayey	Slight	Fair: too clayey
FxC: Flaxton-----	Severe: percs slowly	Severe: seepage slope	Moderate: too clayey	Severe: seepage	Fair: too clayey
Williams-----	Severe: percs slowly	Severe: slope	Moderate: too clayey	Slight	Fair: too clayey

SANITARY FACILITIES--continued
Oliver County, North Dakota

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable.)

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
FxD: Flaxton-----	Severe: percs slowly	Severe: seepage slope	Moderate: slope too clayey	Severe: seepage	Fair: slope too clayey
Williams-----	Severe: percs slowly	Severe: slope	Moderate: slope too clayey	Moderate: slope	Fair: slope too clayey
GaA: Grail-----	Severe: percs slowly	Slight	Severe: too clayey	Slight	Poor: hard to pack too clayey
GaB: Grail-----	Severe: percs slowly	Moderate: slope	Severe: too clayey	Slight	Poor: hard to pack too clayey
GcA: Grail-----	Severe: percs slowly	Slight	Severe: too clayey	Slight	Poor: hard to pack too clayey
GcB: Grail-----	Severe: percs slowly	Moderate: slope	Severe: too clayey	Slight	Poor: hard to pack too clayey
GcC: Grail-----	Severe: percs slowly	Severe: slope	Severe: too clayey	Slight	Poor: hard to pack too clayey
GnA: Grassna-----	Moderate: percs slowly wetness	Moderate: seepage wetness	Severe: wetness	Moderate: wetness	Fair: too clayey
GnB: Grassna-----	Moderate: percs slowly wetness	Moderate: seepage slope wetness	Severe: wetness	Moderate: wetness	Fair: too clayey
Gp: Gravel Pits-----	Severe: poor filter	Severe: seepage	Severe: seepage too sandy	Severe: seepage	Poor: seepage small stones too sandy
Ha: Harriet-----	Severe: flooding percs slowly wetness	Severe: flooding	Severe: flooding too clayey wetness	Severe: flooding wetness	Poor: hard to pack too clayey wetness
Hb: Havrelon-----	Severe: flooding	Severe: flooding	Severe: flooding	Severe: flooding	Fair: too clayey
Hc: Havrelon-----	Severe: flooding	Severe: flooding	Severe: flooding	Severe: flooding	Fair: too clayey

SANITARY FACILITIES--continued
Oliver County, North Dakota

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable.)

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
Hd: Havrelon-----	Severe: flooding	Severe: flooding	Severe: flooding	Severe: flooding	Fair: too clayey
Hm: Havrelon-----	Severe: flooding	Severe: flooding	Severe: flooding	Severe: flooding	Fair: too clayey
Trembles-----	Severe: flooding	Severe: flooding seepage	Severe: flooding seepage	Severe: flooding seepage	Fair: too sandy
Hs: Heil-----	Severe: percs slowly ponding	Severe: ponding	Severe: excess sodium too clayey ponding	Severe: ponding	Poor: hard to pack too clayey ponding
La: Lallie-----	Severe: flooding percs slowly wetness	Severe: flooding	Severe: flooding too clayey wetness	Severe: flooding wetness	Poor: hard to pack too clayey wetness
Lb: Lallie, very wet-----	Severe: flooding percs slowly wetness	Severe: flooding	Severe: flooding too clayey wetness	Severe: flooding wetness	Poor: hard to pack too clayey wetness
LcA: Lawther-----	Severe: percs slowly	Slight	Severe: too clayey	Slight	Poor: hard to pack too clayey
LcB: Lawther-----	Severe: percs slowly	Moderate: slope	Severe: too clayey	Slight	Poor: hard to pack too clayey
LeA: Lefor-----	Severe: seepage thin layer	Severe: seepage	Severe: seepage	Moderate: seepage	Poor: area reclaim thin layer
LhA: Lihen-----	Severe: poor filter	Severe: seepage	Severe: seepage too sandy	Severe: seepage	Poor: too sandy
LkA: Lihen-----	Severe: poor filter	Severe: seepage	Severe: seepage too sandy	Severe: seepage	Poor: too sandy
LlC: Linton-----	Moderate: percs slowly	Severe: slope	Slight	Slight	Good
LnB: Linton-----	Moderate: percs slowly	Moderate: seepage slope	Slight	Slight	Good
Mandan-----	Moderate: percs slowly	Moderate: seepage slope	Slight	Slight	Good

SANITARY FACILITIES--continued
Oliver County, North Dakota

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable.)

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
Lo: Lohler-----	Severe: flooding percs slowly wetness	Severe: flooding	Severe: flooding too clayey wetness	Severe: flooding wetness	Poor: hard to pack too clayey
MaA: Mandan-----	Moderate: percs slowly	Moderate: seepage	Slight	Slight	Good
MaB: Mandan-----	Moderate: percs slowly	Moderate: seepage slope	Slight	Slight	Good
MbA: Mandan, gravelly substratum-----	Moderate: percs slowly	Severe: seepage	Severe: seepage	Slight	Fair: thin layer
MbB: Mandan, gravelly substratum-----	Moderate: percs slowly	Severe: seepage	Severe: seepage	Slight	Fair: thin layer
McB: Manning-----	Severe: poor filter	Severe: seepage	Severe: seepage too sandy	Severe: seepage	Poor: seepage small stones too sandy
Md: Mine Dumps-----	Severe: percs slowly slope	Severe: slope	Severe: slope	Severe: slope	Poor: slope
MoA: Morton-----	Severe: seepage thin layer	Severe: seepage	Severe: seepage	Moderate: seepage	Poor: area reclaim thin layer
MoB: Morton-----	Severe: seepage thin layer	Severe: seepage	Severe: seepage	Moderate: seepage	Poor: area reclaim thin layer
MoC: Morton-----	Severe: seepage thin layer	Severe: seepage slope	Severe: seepage	Moderate: seepage	Poor: area reclaim thin layer
MoD: Morton-----	Severe: seepage thin layer	Severe: seepage slope	Severe: seepage	Moderate: seepage slope	Poor: area reclaim thin layer
MpA: Morton-----	Severe: seepage thin layer	Severe: seepage	Severe: seepage	Moderate: seepage	Poor: area reclaim thin layer
Daglum-----	Severe: percs slowly	Slight	Severe: excess sodium too clayey	Slight	Poor: excess sodium too clayey

SANITARY FACILITIES--continued
Oliver County, North Dakota

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable.)

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
MpB: Morton-----	Severe: seepage thin layer	Severe: seepage	Severe: seepage	Moderate: seepage	Poor: area reclaim thin layer
Daglum-----	Severe: percs slowly	Moderate: slope	Severe: excess sodium too clayey	Slight	Poor: excess sodium too clayey
MpC: Morton-----	Severe: seepage thin layer	Severe: seepage slope	Severe: seepage	Moderate: seepage	Poor: area reclaim thin layer
Daglum-----	Severe: percs slowly	Severe: slope	Severe: excess sodium too clayey	Slight	Poor: excess sodium too clayey
MsC: Morton, stony-----	Severe: seepage thin layer	Severe: seepage	Severe: seepage	Moderate: seepage	Poor: area reclaim thin layer
Sen, stony-----	Severe: seepage thin layer	Severe: seepage	Severe: seepage	Moderate: seepage	Poor: area reclaim thin layer
NfB: Noonan-----	Severe: percs slowly wetness	Moderate: slope	Severe: excess sodium wetness	Moderate: wetness	Poor: excess sodium
Flaxton-----	Severe: percs slowly	Severe: seepage	Moderate: too clayey	Severe: seepage	Fair: too clayey
Pa: Parnell-----	Severe: percs slowly ponding	Severe: ponding	Severe: too clayey ponding	Severe: ponding	Poor: hard to pack too clayey ponding
PbA: Parshall-----	Slight	Severe: seepage	Severe: seepage	Severe: seepage	Fair: too sandy
PcA: Parshall-----	Slight	Severe: seepage	Severe: seepage	Severe: seepage	Fair: too sandy
PcB: Parshall-----	Slight	Severe: seepage	Severe: seepage	Severe: seepage	Fair: too sandy
PtC: Parshall-----	Slight	Severe: seepage slope	Severe: seepage	Severe: seepage	Fair: too sandy
Tally-----	Slight	Severe: seepage slope	Severe: seepage	Severe: seepage	Fair: too sandy

SANITARY FACILITIES--continued
Oliver County, North Dakota

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable.)

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
Re: Regan, very poorly drained-----	Severe: flooding percs slowly wetness	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding wetness	Poor: wetness
RgA: Regent-----	Severe: seepage percs slowly thin layer	Severe: seepage	Severe: seepage too clayey	Moderate: seepage	Poor: area reclaim hard to pack too clayey
RgB: Regent-----	Severe: seepage percs slowly thin layer	Severe: seepage	Severe: seepage too clayey	Moderate: seepage	Poor: area reclaim hard to pack too clayey
RgC: Regent-----	Severe: seepage percs slowly thin layer	Severe: seepage slope	Severe: seepage too clayey	Moderate: seepage	Poor: area reclaim hard to pack too clayey
RLA: Regent-----	Severe: seepage percs slowly thin layer	Severe: seepage	Severe: seepage too clayey	Moderate: seepage	Poor: area reclaim hard to pack too clayey
Daglum-----	Severe: percs slowly	Slight	Severe: excess sodium too clayey	Slight	Poor: excess sodium too clayey
RLB: Regent-----	Severe: seepage percs slowly thin layer	Severe: seepage	Severe: seepage too clayey	Moderate: seepage	Poor: area reclaim hard to pack too clayey
Daglum-----	Severe: percs slowly	Moderate: slope	Severe: excess sodium too clayey	Slight	Poor: excess sodium too clayey
RLC: Regent-----	Severe: seepage percs slowly thin layer	Severe: seepage slope	Severe: seepage too clayey	Moderate: seepage	Poor: area reclaim hard to pack too clayey
Daglum-----	Severe: percs slowly	Severe: slope	Severe: excess sodium too clayey	Slight	Poor: excess sodium too clayey
RoB: Rhoades-----	Severe: percs slowly	Moderate: slope	Severe: excess sodium too clayey	Slight	Poor: hard to pack too clayey
Daglum-----	Severe: percs slowly	Moderate: slope	Severe: excess sodium too clayey	Slight	Poor: excess sodium too clayey

SANITARY FACILITIES--continued
Oliver County, North Dakota

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable.)

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
RvE: Ringling-----	Severe: large stones slope poor filter	Severe: large stones seepage slope	Severe: large stones seepage slope	Severe: seepage slope	Poor: seepage slope small stones
Rw: Riverwash-----	Severe: flooding wetness poor filter	Severe: flooding seepage wetness	Severe: flooding seepage wetness	Severe: flooding seepage wetness	Poor: seepage too sandy wetness
SaA: Savage-----	Severe: percs slowly	Slight	Severe: too clayey	Slight	Poor: hard to pack too clayey
SeC: Sen-----	Severe: depth to rock	Severe: depth to rock	Severe: depth to rock	Severe: depth to rock	Poor: depth to rock
Werner-----	Severe: seepage thin layer	Severe: seepage	Severe: seepage	Severe: seepage	Poor: area reclaim thin layer
SmA: Amor-----	Severe: seepage thin layer	Severe: seepage	Severe: seepage	Moderate: seepage	Poor: area reclaim thin layer
Sen-----	Severe: depth to rock	Severe: depth to rock	Severe: depth to rock	Severe: depth to rock	Poor: depth to rock
SmB: Amor-----	Severe: seepage thin layer	Severe: seepage	Severe: seepage	Moderate: seepage	Poor: area reclaim thin layer
Sen-----	Severe: depth to rock	Severe: depth to rock	Severe: depth to rock	Severe: depth to rock	Poor: depth to rock
SmC: Amor-----	Severe: seepage thin layer	Severe: seepage slope	Severe: seepage	Moderate: seepage	Poor: area reclaim thin layer
Sen-----	Severe: depth to rock	Severe: slope depth to rock	Severe: depth to rock	Severe: depth to rock	Poor: depth to rock
SmD: Amor-----	Severe: seepage thin layer	Severe: seepage slope	Severe: seepage	Moderate: seepage slope	Poor: area reclaim thin layer
Sen-----	Severe: depth to rock	Severe: slope depth to rock	Severe: depth to rock	Severe: depth to rock	Poor: depth to rock
StA: Stady-----	Severe: poor filter	Severe: seepage	Severe: seepage too sandy	Severe: seepage	Poor: seepage small stones too sandy

SANITARY FACILITIES--continued
Oliver County, North Dakota

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable.)

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
SuB: Stady-----	Severe: poor filter	Severe: seepage	Severe: seepage too sandy	Severe: seepage	Poor: seepage small stones too sandy
Lehr-----	Severe: poor filter	Severe: seepage	Severe: seepage too sandy	Severe: seepage	Poor: seepage small stones too sandy
SuC: Stady-----	Severe: poor filter	Severe: seepage slope	Severe: seepage too sandy	Severe: seepage	Poor: seepage small stones too sandy
Lehr-----	Severe: poor filter	Severe: seepage slope	Severe: seepage too sandy	Severe: seepage	Poor: seepage small stones too sandy
SwA: Straw-----	Severe: flooding	Severe: flooding seepage	Severe: flooding seepage	Severe: flooding seepage	Fair: too clayey
Sx: Channel-----	---	---	---	---	---
Straw-----	Severe: flooding	Severe: flooding seepage	Severe: flooding seepage	Severe: flooding seepage	Fair: too clayey
Sy: Strongly Saline Land---	Severe: percs slowly wetness	Severe: wetness	Severe: excess salt wetness	Severe: wetness	Poor: excess salt hard to pack wetness
TaB: Tally-----	Slight	Severe: seepage	Severe: seepage	Severe: seepage	Fair: too sandy
Parshall-----	Slight	Severe: seepage	Severe: seepage	Severe: seepage	Fair: too sandy
TbA: Tally-----	Slight	Severe: seepage	Severe: seepage	Severe: seepage	Fair: too sandy
Vebar-----	Severe: seepage thin layer	Severe: seepage	Severe: seepage	Moderate: seepage	Poor: area reclaim thin layer
TeD: Telfer-----	Severe: poor filter	Severe: seepage slope	Severe: seepage too sandy	Severe: seepage	Poor: too sandy
Lihen-----	Severe: poor filter	Severe: seepage slope	Severe: seepage too sandy	Severe: seepage	Poor: too sandy

SANITARY FACILITIES--continued
Oliver County, North Dakota

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable.)

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
TmA: Temvik-----	Severe: percs slowly	Moderate: seepage slope	Moderate: too clayey	Slight	Fair: too clayey
TwB: Temvik-----	Severe: percs slowly	Moderate: seepage slope	Moderate: too clayey	Slight	Fair: too clayey
Williams-----	Severe: percs slowly	Moderate: seepage slope	Moderate: too clayey	Slight	Fair: too clayey
TwC: Temvik-----	Severe: percs slowly	Severe: slope	Moderate: too clayey	Slight	Fair: too clayey
Williams-----	Severe: percs slowly	Severe: slope	Moderate: too clayey	Slight	Fair: too clayey
TwD: Temvik-----	Severe: percs slowly	Severe: slope	Moderate: slope too clayey	Moderate: slope	Fair: slope too clayey
Williams-----	Severe: percs slowly	Severe: slope	Moderate: slope too clayey	Moderate: slope	Fair: slope too clayey
Tx: Tonka-----	Severe: percs slowly ponding	Severe: ponding	Severe: too clayey ponding	Severe: ponding	Poor: hard to pack too clayey ponding
Parnell-----	Severe: percs slowly ponding	Severe: ponding	Severe: too clayey ponding	Severe: ponding	Poor: hard to pack too clayey ponding
VaC: Vebar-----	Severe: seepage thin layer	Severe: seepage slope	Severe: seepage	Moderate: seepage	Poor: area reclaim thin layer
VbD: Vebar, stony-----	Severe: seepage thin layer	Severe: seepage slope	Severe: seepage	Severe: seepage	Poor: area reclaim thin layer
VhD: Vebar-----	Severe: seepage thin layer	Severe: seepage slope	Severe: seepage	Moderate: seepage slope	Poor: area reclaim thin layer
Cohagen-----	Severe: depth to rock	Severe: seepage slope depth to rock	Severe: seepage depth to rock	Severe: depth to rock	Poor: depth to rock
VkB: Vebar-----	Severe: seepage thin layer	Severe: seepage	Severe: seepage	Moderate: seepage	Poor: area reclaim thin layer

SANITARY FACILITIES--continued
Oliver County, North Dakota

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable.)

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
Tally----- VlB: Vebar-----	Slight Severe: seepage thin layer	Severe: seepage Severe: seepage	Severe: seepage Severe: seepage	Severe: seepage Moderate: seepage	Fair: too sandy Poor: area reclaim thin layer
Tally----- VlC: Vebar-----	Slight Severe: seepage thin layer	Severe: seepage Severe: seepage slope	Severe: seepage Severe: seepage	Severe: seepage Moderate: seepage	Fair: too sandy Poor: area reclaim thin layer
Tally----- Vs: Velva-----	Slight Severe: flooding	Severe: seepage slope Severe: flooding seepage	Severe: seepage Severe: flooding seepage	Severe: seepage Severe: flooding seepage	Fair: too sandy Good
Straw----- WaD: Wabek-----	Severe: flooding Severe: slope poor filter	Severe: flooding seepage Severe: seepage slope	Severe: flooding seepage Severe: seepage slope too sandy	Severe: flooding seepage Severe: seepage slope	Fair: too clayey Poor: seepage small stones too sandy
WlA: Williams-----	Severe: percs slowly	Moderate: seepage	Moderate: too clayey	Slight	Fair: too clayey
WlB: Williams-----	Severe: percs slowly	Moderate: seepage slope	Moderate: too clayey	Slight	Fair: too clayey
WlC: Williams-----	Severe: percs slowly	Severe: slope	Moderate: too clayey	Slight	Fair: too clayey
WmC: Williams-----	Severe: percs slowly	Moderate: large stones seepage slope	Moderate: too clayey	Slight	Fair: too clayey
WnC: Flaxton-----	Severe: percs slowly	Severe: seepage slope	Moderate: too clayey	Severe: seepage	Fair: too clayey
Williams-----	Severe: percs slowly	Severe: slope	Moderate: too clayey	Slight	Fair: too clayey
WzD: Williams-----	Severe: percs slowly	Severe: slope	Moderate: slope too clayey	Moderate: slope	Fair: slope too clayey

SANITARY FACILITIES--continued
Oliver County, North Dakota

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable.)

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
Zahl-----	Severe: percs slowly	Severe: slope	Moderate: slope too clayey	Moderate: slope	Fair: slope too clayey
ZaD: Zahl-----	Severe: percs slowly	Severe: slope	Moderate: slope too clayey	Moderate: slope	Fair: slope too clayey
Williams-----	Severe: percs slowly	Severe: slope	Moderate: slope too clayey	Moderate: slope	Fair: slope too clayey
ZaE: Zahl-----	Severe: percs slowly slope	Severe: slope	Severe: slope	Severe: slope	Poor: slope
Williams-----	Severe: percs slowly slope	Severe: slope	Severe: slope	Severe: slope	Poor: slope

